

CLAIMS

1. An interface apparatus comprising:
tester communicating means for communicating with a tester; and
contactless communications means for communicating a test signal with a terminal of a device under test without physically contacting said terminal.
2. The apparatus of claim 1, wherein said contactless communications means communicates a plurality of test signals with a plurality of terminals of said device under test without physically contacting said terminals.
3. The apparatus of claim 2, wherein said contactless communications means comprises a plurality of conductive traces.
4. The apparatus of claim 3, wherein each of said traces are electromagnetically coupleable to conductive structures on said device under test.
5. The apparatus of claim 1 further comprising means for providing power to said device under test.
6. The apparatus of claim 1 further comprising means for controlling contactless communications with said device under test.
7. An interface apparatus comprising:
electrically conductive elements connectable to a tester; and
electrically conductive structures disposed to be contactlessly coupleable to a device under test.
8. The apparatus of claim 7, wherein said conductive structures are electromagnetically coupleable to said device under test.

9. The apparatus of claim 7 further comprising a transmitter configured to transmit test signals on at least one of said conductive structures.
10. The apparatus of claim 7 further comprising a receiver configured to receive a test signal induced on at least one of said conductive structures.
11. The apparatus of claim 7 further comprising a transceiver configured to transmit test signals on at least one of said conductive structures and to receive a test signal induced on at least one of said conductive structures.
12. The apparatus of claim 7 further comprising at least one probe disposed to provide power to said device under test.
13. The apparatus of claim 7 further comprising a substrate, wherein said electrically conductive structures are disposed on said substrate to correspond to conductive structures on said device under test.
14. The apparatus of claim 13 further comprising circuitry configured to control communications with said device under test.
15. The apparatus of claim 7, wherein said electrically conductive structures are disposed to communicate contactlessly a single signal received from said tester to a plurality of devices under test.
16. A semiconductor wafer comprising:
a plurality of dies each comprising functional circuitry; and
electrically conductive structures configured to contactlessly receive test signals for testing said functional circuitry.
17. The semiconductor wafer of claim 16, wherein each die comprises a set of said conductive structures.

18. The semiconductor wafer of claim 16, wherein each of said conductive structures in a set of said conductive structures are electrically connected to a plurality of said dies.
19. The semiconductor wafer of claim 16, wherein said conductive structures are electromagnetically coupleable to a tester interface device.
20. The semiconductor wafer of claim 16 further comprising a transmitter configured to transmit test signals on at least one of said conductive structures.
21. The semiconductor wafer of claim 20, wherein each of said dies comprises such a transmitter.
22. The semiconductor wafer of claim 16 further comprising a receiver configured to receive a test signal induced on at least one of said conductive structures.
23. The semiconductor wafer of claim 22, wherein each of said dies comprises such a receiver.
24. The semiconductor wafer of claim 16 further comprising a transceiver configured to transmit test signals on at least one of said conductive structures and to receive a test signal induced on at least one of said conductive structures.
25. The semiconductor wafer of claim 24, wherein each of said dies comprises such a transceiver.
26. The semiconductor wafer of claim 16 further comprising built in self test circuitry.

27. A semiconductor wafer comprising:
a plurality of dies each comprising functional circuitry and terminals; and
means for receiving a test signal from a tester channel without physically contacting said tester channel.
28. The semiconductor wafer of claim 27 further comprising means for sending a test signal to a test channel without physically contacting said tester channel.
29. The semiconductor wafer of claim 27, wherein said means for receiving receives a plurality of test signals from a plurality of tester channels without physically contacting said plurality of tester channels.
30. The semiconductor wafer of claim 27 further comprising means for controlling communications with a plurality of said tester channels.
31. An interface apparatus comprising:
means for receiving a single signal from a tester; and
contactless communications means for communicating said single test signal with terminals of a plurality of devices under test without physically contacting said terminals.
32. An interface apparatus comprising:
means for receiving a plurality of signals from a tester for testing a first number of devices; and
contactless communications means for communicating said plurality of signals with terminals of a second number of devices without physically contacting said terminals,
wherein said second number is greater than said first number.
33. A method of making a semiconductor die, said method comprising:
providing a semiconductor wafer comprising a die;
contactlessly transmitting said test data to said die; and
testing said die with said test data.

34. The method of claim 33 further comprising contactlessly reading from said die response data generated by said die.

35. A die made using the method of claim 33.